NOAA REPORT

Vol. VI, No. 9 September 1997

Severe Weather Warnings Get Local: NWS has improved its NOAA Weather Radio severe weather warnings, enabling listeners to screen out weather alarms that do not apply to them by using a new generation of weather radio receivers equipped with NWS-developed technology.

"We want to reduce the 'Boy Who Cried Wolf' syndrome by targeting our alarms for specific segments of the listening area," said Louis J. Boezi, NWS deputy director for modernization. "This new warning procedure is a breakthrough because it lets NOAA Weather Radio

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listeners screen out the severe weather alarms they don't want to hear. If listeners are awakened at 3 a.m. for a severe weather warning 75 miles away, they may eventually tune out all together. We don't want that to happen."

Imported Bluefin Tuna From Violators Banned: The United States is prohibiting all imports of Atlantic bluefin tuna caught by vessels from Panama, Honduras and Belize because the fishing activities of the three countries are undermining international efforts to manage and conserve the species. This is the first time that the United States has implemented internationally agreed sanctions against countries found to violate conservation rules of the International Commission for the Conservation of Atlantic Tunas.

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Better Forecasts, But More People at Risk

Hurricane Andrew Plus Five

Good news and bad news marked the fifth anniversary of Hurricane Andrew's landfall in south Florida on Aug. 24, 1992. The good news: forecasters using the National Weather Service's modernized technology are better able to monitor and warn about hurricanes. The bad news: there are more people and buildings in harm's way.

"Hurricane forecasting technology has made significant gains over the past five years," said Robert W. Burpee, who recently stepped down as director of the National Hurricane Center in Miami for health reasons to take a position as a senior scientist there. "But there's also much more at risk as populations grow along our eastern and Gulf coasts."

In the early 1990s, the National Weather Service, the hurricane center's parent organization, had just embarked on a 10-year, $4.5-billion modernization and restructuring program.

Even before Hurricane Andrew, the National Hurricane Center was among the weather service's top priorities. A

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Kelping Out

A Fishy Encounter in California Sanctuary

Volunteer divers, lead by Jean-Michel Cousteau, counted fish in NOAA's Channel Island National Marine Sanctuary during this summer's Great American Fish Count. More photos on page 6.

Five Years After Andrew, Hurricane Center Sees Many Advances

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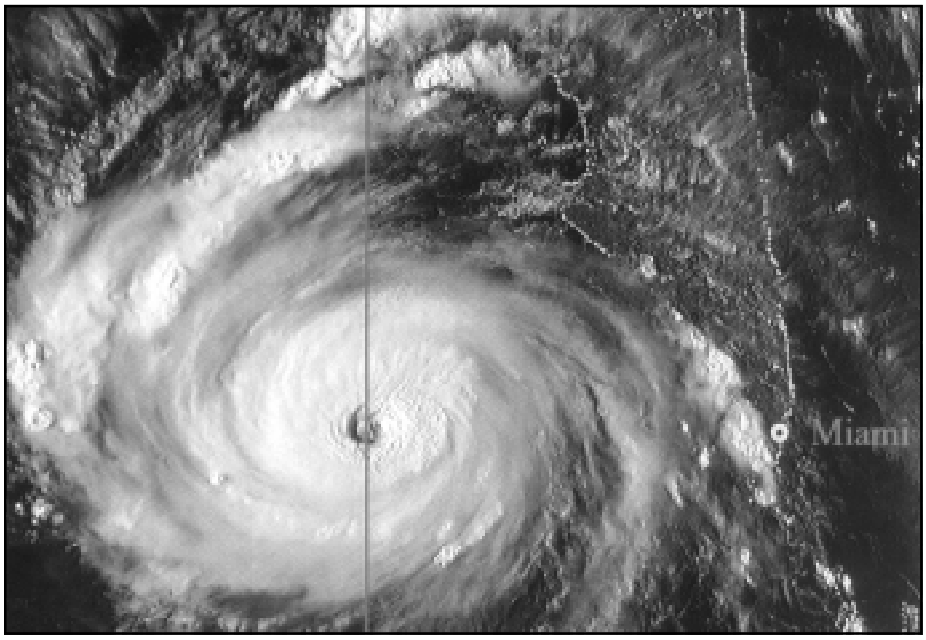
new building specifically designed to withstand major hurricanes' (categories 3, 4 and 5) winds and flooding was being planned in 1990.

"A hardened building was needed during Hurricane Andrew," said Burpee. During Andrew hurricane forecasters worked on the sixth floor of a commercial office building in Coral Gables heavily damaged by the storm. Forecasters kept vital operations going despite loss of radar and satellite antennas. "Wind gusts of 163 mph battered the center, making frisbees of our 15-foot satellite dishes and kicking a vintage 1957 radar dome from its 12-story perch like some huge soccer ball. Back-up generator power was barely adequate to the task."

Even with the loss of local Miami radar during Andrew, a new Doppler radar from the National Weather Service office in Melbourne, Fla., some 180 miles away, painted the hurricane's outline very high over south Florida and gave hurricane forecasters vital information as they tracked the path of the storm. This month, the weather service completed installation of 164 Doppler weather radars around the nation as part of its modernization. Twenty-nine of these radars now serve hurricane-vulnerable areas of the Gulf and Atlantic coastal states. The radars allow forecasters to observe and calculate the speed and direction of severe weather elements such as tornados and violent thunderstorms associated with hurricanes.

Two state-of-the-art geostationary satellites (GOES-8 and -9) were launched in 1994 and 1995. Their high-resolution images and atmospheric soundings now give forecasters the continuous monitoring necessary for intensive analysis of the atmospheric triggers for severe weather conditions.



This photo of Hurricane Andrew as it passed through Miami on its way to the Gulf of Mexico shows an actual image of the storm from the GOES-7 satellite on the left, and a much sharper simulated one from GOES-8, which had yet to be launched. GOES-8 is now fully operational and covers the East Coast.

A new high-altitude Gulfstream-IV jet was officially launched this hurricane season. The jet will probe the atmosphere below 45,000 feet collecting data on the mid-level steering currents never seen before and feed it to the newest computer model introduced in 1995 by NOAA's Geophysical Fluid Dynamics Laboratory, in Princeton, N.J. Over the last two decades, computer modeling has helped forecasters improve 24-hour storm track prediction by about 20 percent.

Preliminary studies show that data from the Gulfstream IV aircraft, coupled with soundings from GOES satellites, should further reduce forecast errors significantly.

"Advances in forecasting technology are vital," said Jerry Jarrell, the hurricane center's deputy director. "For every mile we don't have to 'overwarn' and evacuate, we save up to $1 million."

Hurricanes represent a growing problem for our increasingly crowded coastlines. "There are just more people and construction in harm's way," Jarrell said. "More population and property at risk mean longer lead times are necessary to prepare a community. Without technological advances and ongoing research, longer lead times would not be possible."

Studies by Drs. Christopher Landsea of NOAA's Office of Oceanic and Atmospheric Research and Roger Pielke Jr. of the National Center for Atmospheric Research suggest that coastal populations and construction have grown from Texas to Maine. Florida's population alone nearly tripled between 1960 (5 million) to 1995 (14 million). From 1988 to 1993 the total value of insured property in coastal counties (Texas-Maine) grew from $13.0 to $21.4 trillion. On average over the past 71 years, hurricanes would have caused about $4.8 billion in damage annually (when adjusted for inflation to 1995 conditions). Hurricane Andrew's toll was about $30 billion.

—Frank Lepore

Outreach, Enforcement Credited

More Gulf Shrimpers Using Turtle Devices

Recent checks in the western Gulf of Mexico have shown a 98 percent compliance with Turtle Excluder Device regulations by shrimpers, showing that "intense" NMFS education and enforcement efforts have worked.

Since 1987 the fisheries service has worked closely with a wide range of groups interested in the shrimp fishery to implement gear modifications that minimize the taking of sea turtles without adversely affecting shrimpers' ability to catch shrimp. That effort was intensified in February 1996 when the first of 31 public meetings and workshops were held in major fishing ports throughout the Southeast and in Washington, D.C. to discuss proposed rules that would further regulate the shrimping industry. Hundreds of fishermen, net and equipment manufacturers, state regulators and representatives of environmental groups attended the meetings and provided valuable input that was incorporated into the final rules.

"I am delighted to announce that the intense outreach and enforcement effort that the fisheries service, Sea Grant, Coast Guard and many states' fishery regulatory agencies have engaged in over the last two years has resulted in a very high rate of compliance with all sea turtle conservation measures," said Andrew Kemmerer, NMFS Southeast director.

The final rules established Shrimp Fishery Sea Turtle Conservation Areas (SFSTCA) in the Atlantic and Gulf of Mexico, prohibited the use of soft turtle excluder devices (TED) within the areas, and defined what an approved TED must do.

Following the rules' adoption on December 19, 1996, copies of them were sent directly to every licenced shrimper in the Southeast and extensive news coverage was provided by the popular and trade press. In early 1997, in cooperation with Sea Grant and many states' regulatory agencies, NMFS personnel conducted nine informational and technical workshops in shrimper supply houses, net shops and fishery extension facilities throughout the Southeast to ensure that everyone fully understood the new regulations.

"We are optimistic the new rules… will help to protect sea turtles and foster their recovery," said Kemmerer. Enhanced nest survey and protection efforts in Mexico have documented over 2,300 Kemp's ridley nests in 1997, the highest number since joint U.S.-Mexico protection efforts began in 1978.

—Chris Smith

Two young visitors check out the Rainier *during a July open house in Seward, Alaska.*

Rainier Shares Survey Successes in Alaska

The NOAA Ship *Rainier*, NOAA's only remaining hydrographic survey ship on the West Coast, held an open house and public tours in Seward, Alaska, as part of 4th of July celebration festivities there.

Alaskan residents had an opportunity to see how state-of-the-art hydrographic surveying techniques were used to complete recent projects in Alaskan waters. These surveys included projects in Stephens Passage, Taku Inlet and LaConte Bay—all of which are areas of heavy marine traffic and where charts were based on information collected as early as the turn of the century.

Residents also examined special projects completed by the *Rainier* in response to local needs requested by the U.S. Coast Guard, pilots' associations and the maritime industry. These special surveys included the ports in Juneau, Sitka, Yakutat and Skagway. In the coming months, the *Rainier* is scheduled to complete two more large-scale projects—in the remote, poorly charted but heavily fished area of the southern Alaska peninsula, and in the heavily trafficked Prince William Sound.

—Lt.Cmdr. David Kruth

Focus On...

Diana Josephson

Diana Josephson, NOAA's Deputy Under Secretarywill be leaving NOAA this month, as part of Commerce Secretary Daley's pledge to reduce the department's number of political appointees.

NOAA Report spoke to her in her Washington office last month.

Diana Josephson (right) dons a welding mask as part of the keel laying ceremony for the NOAA ship Ronald H. Brown *in Feb. 1995.*

NOAA'S STRATEGIC PLAN

Q: One of the things that you've done is the strategic plan. How important has it become to NOAA? Has it changed the direction of the agency over the past four years?

Josephson: I think one of the major contributions of the strategic plan is to give NOAA leadership across the country a unified vision of what NOAA is, what we want it to be, and a clear sense of its missions and its goals. But we've taken it beyond the strategic plan, because we translate that every year, through the strategic planning teams, into five-year implementation plans. Then the first year of the five-year implementation plan basically becomes the proposed budget request. It is also translated into annual operating plans and annual Senior Executive Service performance plans. So that as we do our quarterly reviews, each organization is absolutely clear on what it is responsible for in terms of milestones and objectives—all of which feed back into the goals and objectives of the strategic plan.

It's become the structure within which we make all our decisions. It permeates all the policy and budget decisions of NOAA.

Another consequence is that I think the organization has become more proactive, rather than reactive. If you have thought through where you want to be ten years from now, then when things come up on a daily basis, you have a context within which to make your decision. Whereas, if you haven't gone through that thinking process, your decisions are, by their very nature, more random.

And I think strategic planning has changed, and is changing our culture. For example, the deputy assistant administrators are committed to establishing a systems architecture for the hardware and software that we acquire. Initially, we're doing it by each of the seven strategic goals. But we have a common contract that is supporting these efforts so that we will, over time, build a NOAA systems architecture for all the systems that we acquire and run, from satellites to data buoys to rain gauges to radars. Once we've collected the data, we will be able to use them in conjunction with all the other data that we've collected and have in our archives.

Q: Do we have a lot of problems where data couldn't be transferred from one part of the agency to another? Where it couldn't be read?

Josephson: Yes. And also we tended to look at our systems, system by system. The famous example is in ASOS where we put new temperature gauges across the country. It's a weather service program and from the weather service's point of view, as long as the gauges are reasonably accurate, that's good enough for them. But for climate purposes, we

require very finely tuned readings of temperature.

We could easily have, for a very small additional investment, made these gauges serve both purposes. But because we were only looking at it from a weather point of view, we didn't.

Q: Do you see more of the parts of NOAA working together now than they did before?

Josephson: Yes. And that's been one of my primary goals—to see that happen. People are participating in these cross organization teams, to help build synergy. We've treated the NOAA leadership as a board of directors. We all worked on the strategic plan and then we all go through the five-year implementation plans, have them presented, and discuss them as a group. We all sit through the quarterly reviews, listening to progress reports from each organization. This has been going on for four years so, for example, Fisheries has been listening to climate issues for years, the navigation people have been listening to protected species issues. As people listen, as they learn more about the programs of the agency, then they begin to see possible partnerships and synergies.

BUILDING DIVERSITY IN NOAA

Q: What other advances have you seen in the past years at NOAA? How are we laying groundwork for the future?

Josephson: Building diversity is one advance. The Diversity Council had a major breakthrough last spring. Since Secretary Brown had started the diversity initiative back in '94, the Diversity Council had been preparing a plan to implement his directive. But what troubled us was that the plan we came up with continued to sound like an Equal Employment Opportunity (EEO) program rather than a diversity program. Dr. Baker asked us to develop some measures for the plan. When the committee looked at the measures, we ended up counting people—we were producing EEO-type statistics.

We knew that this was not what we wanted. We didn't know what diversity meant, but we knew it didn't mean that. At that time, Jocelyn Martin in NOS suggested we invite a speaker from the Department of Transportation to come over and discuss their managing diversity initiative. When we did that, the council members unanimously said *aha*.

The approach that he presented separated out EEO from managing diversity and essentially took the approach that the organizational culture of the entity, in our case NOAA, needed to be examined to make sure that the potential of every person who worked for the organization could be fully realized. This is a business issue because, particularly in the time of downsizing, our people are

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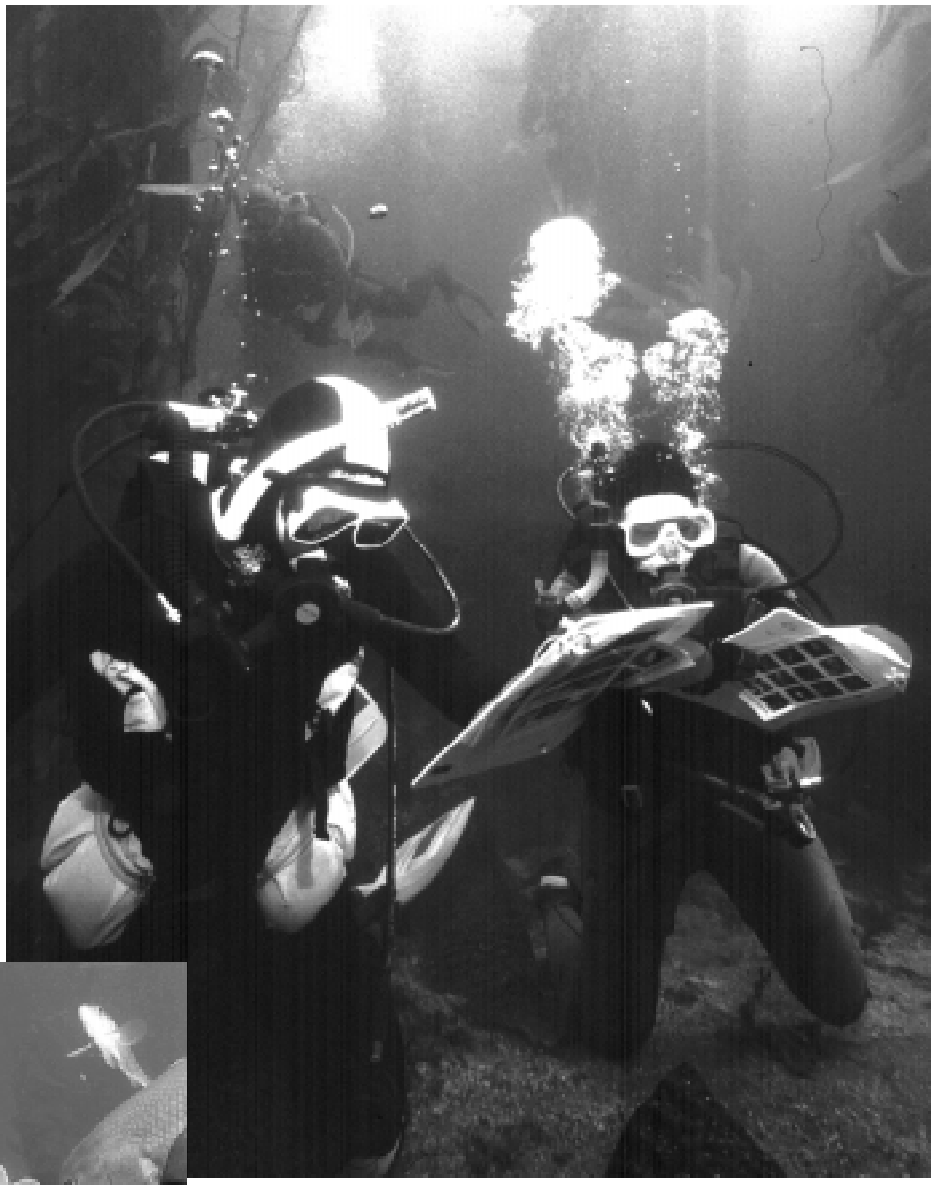
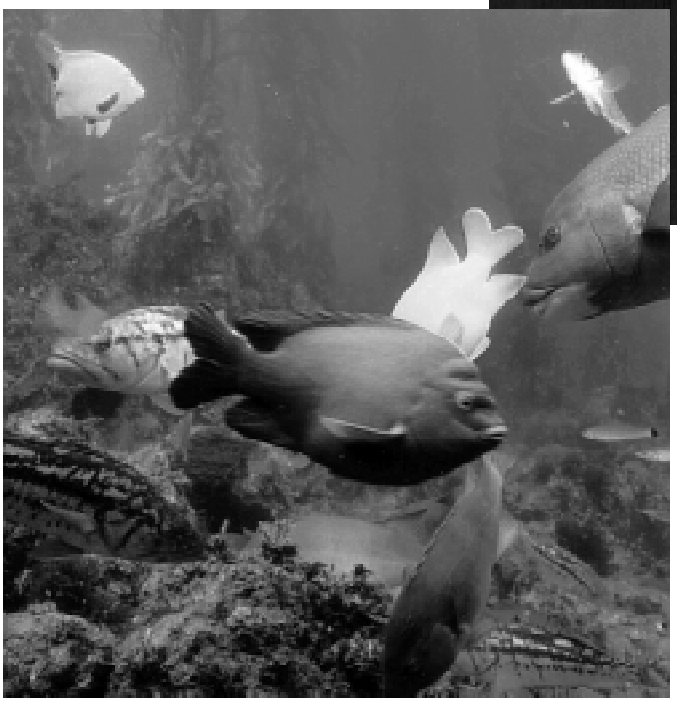
At the NOAA National Data Buoy Center in Mississippi: (left to right) Diana Josephson, CDR David Broughton, Dan Henderson, Dan Laurent, Penny Parker, Terry Towles, and Paul Trotter.

Counting Fish in California

This summer's Great American Fish Count enlisted volunteer divers in Florida, Texas, and California to take a census of marine species. These pictures came from the Fish Count at NOAA's Channel Islands National Marine Sanctuary off the coast of Santa Barbara, California.



(Left) *Volunteer divers use special notebooks to identify and catalog the fish they see.*



Jean-Michel Cousteau, oceanographer and one of the Fish Count's organizers (right), *addresses the volunteers before the dives. Black and white photography doesn't do justice to some of the fish that may have been counted* (above), *so have a look at a color photo of them on the NOAA Report web site, http://www.noaa.gov/public-affairs/nr.*

Focus On:

Diana Josephson

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our major asset. If they're not able to work to their full potential, then as managers we're not doing a good job.

As a result of that insight, we reworked the diversity plan to become a managing diversity plan. We hired a person with experience in this area, Barbara Marshall-Bailey. The plan is now in the implementation phase. We have a working group on education. We had a very successful three-day workshop, in Silver Spring in June, which we're going to repeat at the major employment centers of NOAA—Seattle, Boulder, Kansas City, and Miami—in September and October. And we're going to do another one here in the Washington area. We'll continue this education effort over the next few years.

The second phase, which is running concurrently, is to do an organizational assessment. We currently have a procurement underway to get consultant help to do this—we hope to start sometime this fall. This will give us a baseline, not of numbers of people, but of identifying any organizational and cultural barriers which are holding people back from being able to realize their full potential.

Q: Do you see any of those barriers now?

Josephson: One of the issues that the Council identified is that we have created different levels of status in the organization. As an example, scientists rate very high, but administrative support staff rate lower. Even within the science community, if you go to a particular school, you will rate higher. So if you are a new employee at NOAA, you suddenly discover you're either in a favored group or a less-favored group and it has nothing to do with you or your ability, but it can impact and limit the contribution that you can make to the organization.

LOOKING BACK ON FOUR YEARS

Q: What do you wish you could change, going back over the past

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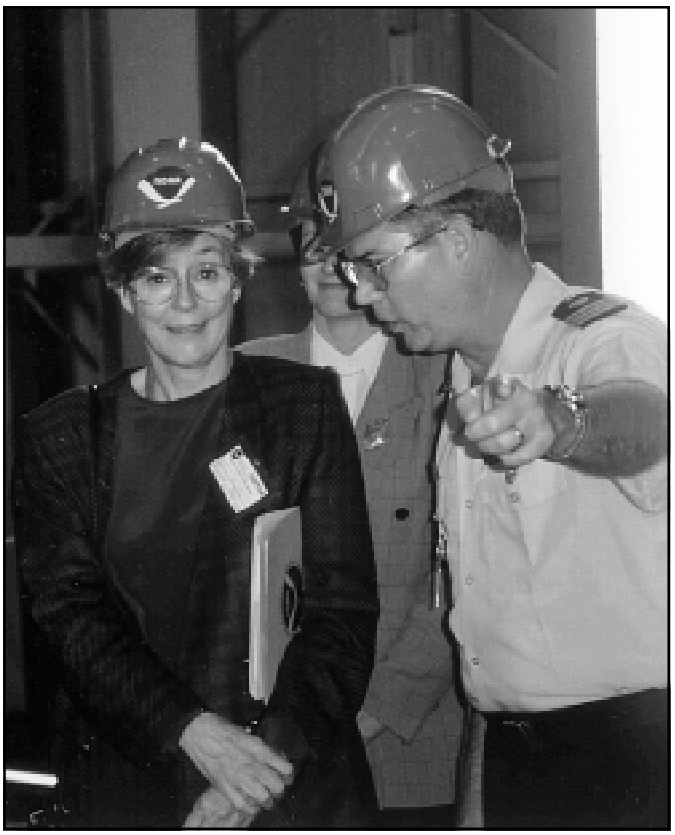

On a trip to the NOAA Data Buoy Center in Mississippi, Josephson donned a hard hat.

Diana Josephson and the rest of the NOAA leadership were introduced to employees in Washington at a 1993 meeting by then-Secretary Ron Brown.

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Underwater Laboratory Readied for Return to Keys: *Aquarius*, the world's only underwater laboratory, will be redeployed on the sea floor in the Florida Keys National Marine Sanctuary this fall. With six science missions scheduled for 1988, *Aquarius* is the centerpiece of NOAA's comprehensive environmental research program aimed at better understanding and preservation of endangered coral reef ecosystems in U.S. waters. Following its first deployment in the Florida Keys from September 1993 to May 1996, *Aquarius* was completely renovated and upgraded. NOAA owns *Aquarius* and funds its operations.

Alaskan Port Lead Nation in 1996: Commercial fishermen brought 579 million pounds of fish, worth $118.7 million, to the port of Dutch Harbor-Unalaska, Alaska, in 1996, making it the port with both the highest volume and dollar value of fish in the country.

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The Alaskan port netted the top volume landings slot for the ninth straight year. However, landings there dropped 105 million pounds over 1995 figures due to declines in pollock landings. Empire-Venice and Cameron, La., the number two and three ports in 1994, regained those positions again in 1996 with landings of 316 and 315 million pounds, respectively.

New Director of Great Lakes Lab: Stephen B. Brandt, a scientist, educator and science administrator, is the new director of NOAA's Great Lakes Environmental Research Laboratory in Ann Arbor, Mich. Brandt had been director of the Great Lakes Center for Environmental Research and Education at the State University of New York at Buffalo, where he was also a professor of biology.

Focus On:

Q&A With Diana Josephson

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few years, of what you've done or what's happened within the agency?

Josephson: Nothing—I think we've had a pretty good four years.

Q: Well, what was your biggest challenge coming into NOAA?

Josephson: I think it was sorting out the roles and relationships in the major systems acquisition area. Since there was disagreement about the role of the system acquisition office, that disagreement permeated through the acquisitions themselves.

One of the early things I did was to get everybody involved, to spend two days in the department's decision analysis center. We did a big sort through of the roles and responsibilities that would be appropriate for NOAA's culture. We came up with a NOAA administrative order codifying the results and we're still living with that administrative order. With some changes in personnel along the way, this area of NOAA is now working smoothly.

Another major problem that I faced when I arrived was air quality problems in Building One at the Silver Spring campus. That took a couple of years to sort out. We had to move everybody out of the building on an emergency basis and then we gave the building back to the Federal government's General Services Administration two years later. This was a major issue for employees that we were able to resolve with an outstanding effort by NOAA's Procurement, Grants, and Administrative Services division.

'HOW TERRIFIC NOAA PEOPLE ARE'

Q: What can you take away from your experience here? What have you learned?

Josephson: I was reminded of how terrific NOAA people are because I was here during the Carter administration. I wanted to come back because I had such fond memories of NOAA from that time. I'm just very impressed by the quality of the work done by NOAA and the interesting issues that challenge it. So I've really had a very good time since I came back and very much regret that I'm leaving.

On the Web

NOAA Report is now available on the World Wide Web, in full color! Check us out at *http://www.noaa.gov/public-affairs/nr.* You can also look at past issues, and send a letter to the editor.

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